# CONSUMER SERVICES

## SERVICE MANUAL

**FRONT LOAD**
**WASHING MACHINE**

**Model AWM8121**
**Version 8570 812 53000**

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# TECHNICAL DATA

**Dimensions**

| | | |
|---|---|---|
| Height | 845 | mm |
| Width | 595 | mm |
| Depth | 620 | mm |

**Weight**

| | | |
|---|---|---|
| Nett | 73 | kg |

**Mains Connection**

| | | |
|---|---|---|
| Voltage | 230 - 240 | V |
| Frequency | 50 | Hz |
| Power consumption | 2.3 | kW |

**Drum**

| | | |
|---|---|---|
| Volume | 53 | l |

**Capacity of dry laundry**

| | | |
|---|---|---|
| Cotton/coloured | 7 | kg |
| Cotton rapid | 3 | kg |
| Cotton short | 6 | kg |
| Easy care | 2.5 | kg |
| Easy care rapid | 1.5 | kg |
| Easy care short | 2.5 | kg |
| Delicate | 1.5 | kg |
| Wool | 1 | kg |

**Water Level** (as sensed by the pressure switch)

| | | |
|---|---|---|
| Level 1 | | |
| Switching point | 55± 5 | mmWc |
| Reset point | 35± 5 | mmWc |
| Overflow | 280 ± 20 | mmWc |

**Water** (level visible inside the drum)

| | | |
|---|---|---|
| Level 1 | | |
| Switching point | 25 - 39 | mm |
| Overflow | 267 - 306 | mm |

**Nominal currents**

| | | |
|---|---|---|
| Contacts | | |
| 11 - 12 | 4 (4) | A |
| 11 - 14 | 16 (4) | A |
| 11 - 16 | 1 (1) | A |

**Door lock**

| | | |
|---|---|---|
| Lock time (20 °C) | 3 - 6 | s |
| Unlock time | 60 - 90 | s |
| Voltage | 230 - 240 | V |
| Rated current: | | |
| Contact 4 - 5 | 16 (4) | A |

**Heating element**

| | | |
|---|---|---|
| Heating | Tubular heating element with NTC - sensor | |
| Rated Voltage | 230 - 240 | V |
| Rated power | 2050 | W |
| Resistance | 22 - 28 | Ω |

| | | |
|---|---|---|
| Resistance NTC : | | |
| 0°C | 35.9 | κΩ |
| 30°C | 9.8 | κΩ |
| 40°C | 6.6 | κΩ |
| 50°C | 4.6 | κΩ |
| 60°C | 3.2 | κΩ |
| 70°C | 2.3 | κΩ |
| 95°C | 1.1 | κΩ |

**Inlet valve - Cold/hot fill :**

| | | |
|---|---|---|
| Water temp (max) | 60 | °C |
| Rated flow <1 bar | 4 | l/min |
| Pressure range | 50 - 1000 | kPa |
| Nominal voltage | 220 - 240 | V |
| Frequency | 50 | Hz |
| Minimum starting voltage: | | |
| < 600 kPa | 160 | V |
| 600 - 1000 kPa | 170 | V |
| Nominal current | 35 | mA |
| Nominal input | 6 | VA |
| Nominal (20 °C) | 3.4 - 4.5 | κΩ |

**Drain pump (synchronous)**

| | | |
|---|---|---|
| Nominal Voltage | 230 - 240 | V |
| Nominal current | 0,3 | A |
| Nominal power | 34 | W |
| Frequency | 50 | Hz |
| Resistor (coil) | 155 ± 7% | Ω |
| Motor protection | 170 | °C |
| Capacity(H=1,25m) | 14 ± 2 | l/min |

**TECHNICAL DATA (Cont.)**

**Program timer**

Type SC1
Timer basic 4619 712 52201
Timer programmed 4619 744 80153
Nominal voltage 230 - .240 V
Frequency 50 Hz

**Harness Connectors (**See circuit diagram)

| | |
|---|---|
| OA4.1 - OA4.2 | 5. Option |
| OA4.3 - OA4.4 | 6. Option |
| OB4.1 - OB4.2 | 3. Option |
| OB4.3 - OB4.4 | 4. Option |
| OC4.1 - OC4.2 | 1. Option |
| OC4.3 - OC4.4 | 2. Option |
| SLT3.1 - SLT3.3 | Temp.selector |
| SLS4.1 - SLS4.4 | Spin speed selector |
| VCF3.1 - VCF3.3 | Valve (cold water) |
| VHF3.1 - VHF3.3 | Valve (hot water) |
| Pi5.1 = | negative supply |
| Pi5.2 = | data |
| Pi5.3 = | clock |
| Pi5.4 = | positive supply |
| Pi 5.5 = | negative supply |
| PL3.1 - PL3.3 | Pilot lamp |

**Connector**

| | |
|---|---|
| M7.1 - M7.7 | Motor |
| DP2.1 - DP2.2 | Pump |
| SET2.1 - SET2.2 | NTC |
| DSS3.1 - DSS3.3 | Door switch |
| PR2.1 - PR2.2 | Pressostat |

Single connector

| | |
|---|---|
| HE2.1 - HE2.2 | Heating element |
| PS2.1 - PS2.2 | Pressostat |
| SM3.2 - SM3.3 | Mains switch (3 fold connector) |

**Program** 32 positions

| Step | Cotton / Colour | Easy care | Deli-cate | Wool | Silk |
|---|---|---|---|---|---|
| Pre wash | 02-06 | 03-06 | 04-06 | - | - |
| Main wash | 07-21 | 12-21 | 14-21 | 17-21 | 18-21 |
| Rinse | 22-28 | 22-28 | 22-28 | 22-28 | 22-28 |
| Spin | 29-31 | 29-31 | 29-31 | 29-31 | 29-31 |
| Stop | 32 | 32 | 32 | 32 | 32 |

**Speeds**

| | | |
|---|---|---|
| Wash speed | 54 | rpm |
| Ramp speed | 95 | rpm |
| Spin speed | 1200 | rpm |

**Ambient Temperatures**

Ambient temperature up to 70 °C
Storage temperature up to 85 °C

**Output**

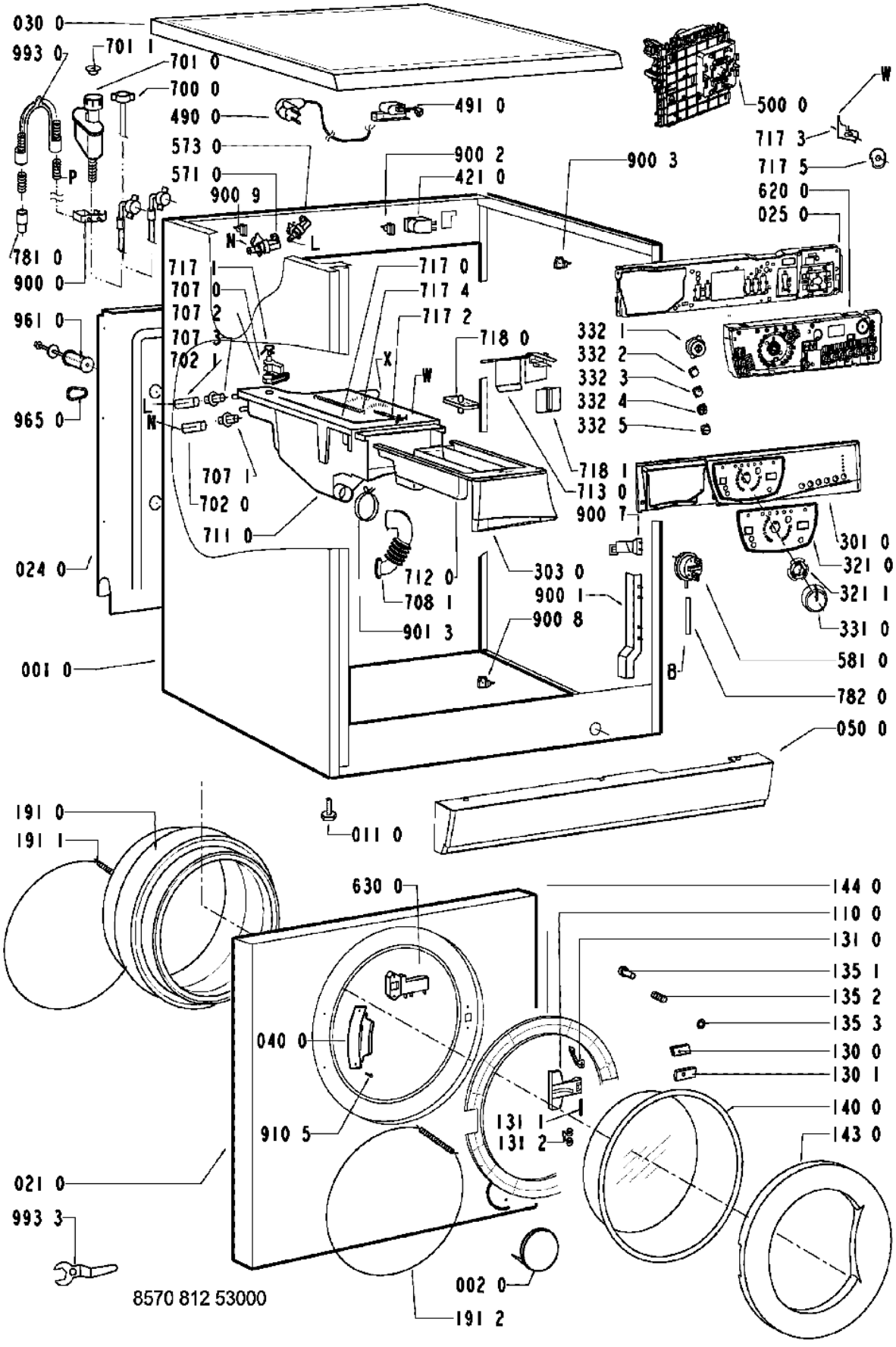
| | | |
|---|---|---|
| Motor M7.6 - DSS 3.2 | >40 | V |
| in pump step AQ2.1 -DSS 3.2 | 240 | V |
| NTC | not measurable | |
| Pump DP2.1 -DP2.2 | 240 | V |
| Doorlock DSS3.1 -DSS 3.3 | 240 | V |
| Pressostat E4 - E2 | 240 | V |
| - empty PR2.1 - E2 | 240 | V |
| - full PR2.2 - E2 | 240 | V |
| Valve (Rast 2,5) V2.1 - V2.2 | >170 | V |
| Options | not measurable | |
| Display module Pi5.1 - Pi5. | 4.5 | V |
| Pi5.4 - Pi5.5 | 12 | V |

**Motor**

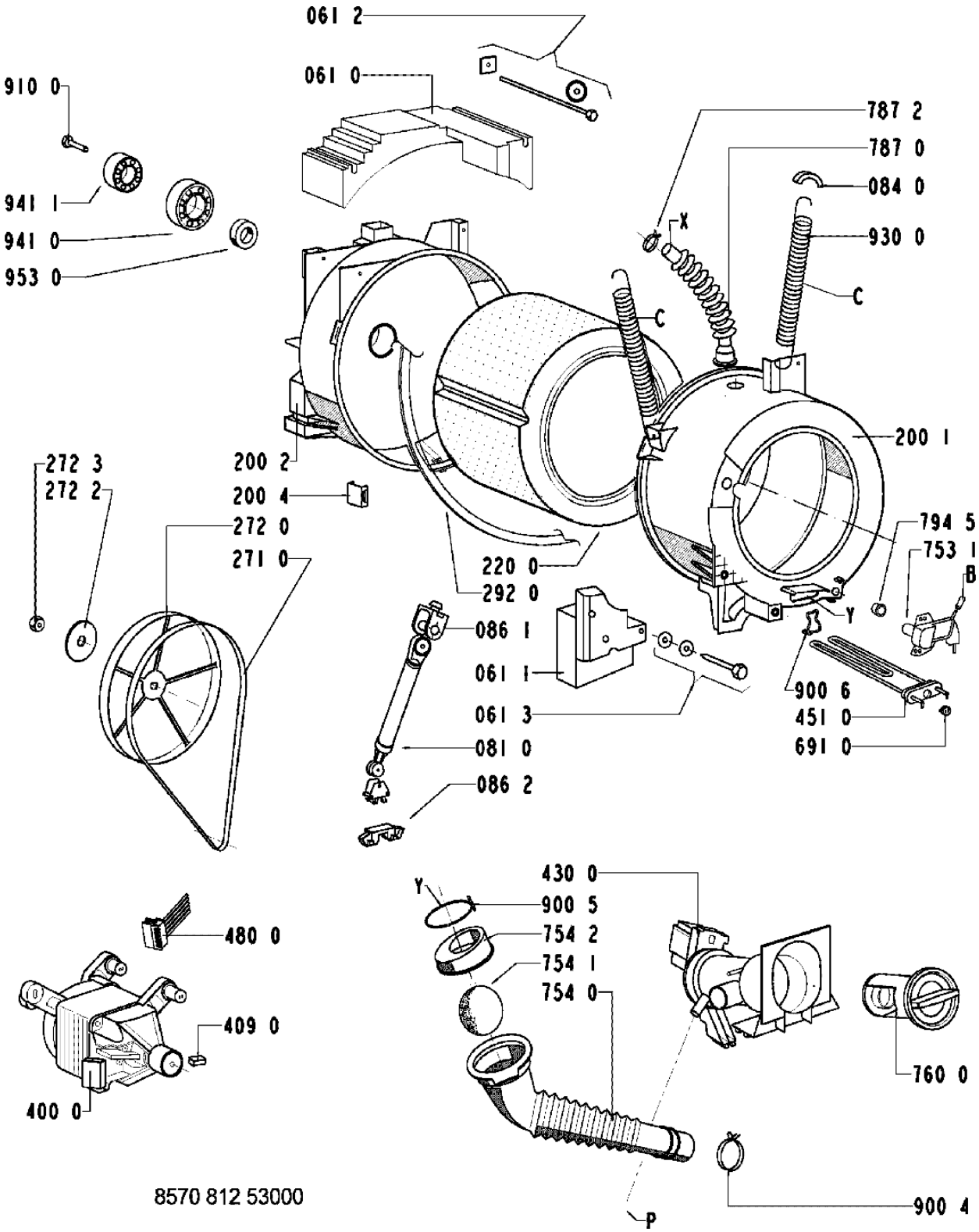
Type MCA61/64 - 148 t.f.
WHE 0
Belt ratio i = 1 : 13.3
Resistance contacts

| | | |
|---|---|---|
| 6 - 7 | 68.7± 7% | Ω |
| 4 - 5 | 1.78± 7% | Ω |
| 2 - 3 | 1.68± 7% | Ω |
| 1 - 3 | 0.99± 7% | Ω |

## EXPLODED VIEW - CABINET



## EXPLODED VIEW - DRUM




8570 812 53000

## PARTS LIST

| Item | Part No | Description |
|---|---|---|
| 001 0 | 4819 440 19716 | Cabinet |
| 002 0 | 4812 440 19343 | Flap |
| 011 0 | 4819 462 48472 | Foot |
| 021 0 | 4812 440 19818 | Front |
| 024 0 | 4812 440 18998 | Panel, rear |
| 025 0 | 4812 404 38551 | Support, control board VBL WH |
| 030 0 | 4812 310 18586 | Table top VBL WH |
| 040 0 | 4812 417 18787 | Hinge |
| 050 0 | 4812 440 10406 | Pedestal VBL, 53 l |
| 061 0 | 4812 466 88458 | Counter weight, upper |
| 061 1 | 4812 466 88459 | Counter weight, front |
| 061 2 | 4819 310 39227 | Mounting kit weight, top |
| 061 3 | 4819 310 39228 | Mounting kit weight, bottom |
| 081 0 | 4812 529 18038 | Shock absorber upto 1200rpm |
| 084 0 | 4812 466 58001 | Anti rattle, support spring |
| 086 1 | 4812 401 18413 | Holder, shock absorber |
| 086 2 | 4812 401 18412 | Stopper |
| 110 0 | 4812 498 18139 | Handle, door white |
| 130 0 | 4812 417 28047 | Plate, door lock |
| 130 1 | 4812 417 28048 | Plate, doorlock lower |
| 131 0 | 4812 417 28046 | Lock door |
| 131 1 | 4812 417 28045 | Pin door lock |
| 131 2 | 4812 492 58022 | Spring door lock |
| 135 1 | 4812 498 18137 | Knob door safety |
| 135 2 | 4812 491 48004 | Spring |
| 135 3 | 4812 290 68153 | Holder, adjustable door safety |
| 140 0 | 4812 450 68219 | Door glass |
| 143 0 | 4812 440 19782 | Glassdoor frame VBL WH |
| 144 0 | 4812 440 19589 | Frame, door glass DE-WT |
| 191 0 | 4812 460 68527 | Door bellow standard |
| 191 0 | 4812 460 68532 | Door bellow WH grease resistance |
| 191 1 | 4812 492 18017 | Strap |
| 191 2 | 4819 530 58059 | Ring |
| 200 1 | 4812 418 18283 | Tub 53l front |
| 200 2 | 4812 418 18305 | Tub 53l rear |
| 200 4 | 4812 290 88054 | Clamp for tub WH |
| 220 0 | 4812 418 18288 | Drum 53l |
| 271 0 | 4819 358 18152 | Belt |
| 272 0 | 4812 528 58027 | Pulley DIAM.298 |
| 272 2 | 4812 532 18024 | Washer |
| 272 3 | 4812 505 18371 | Nut M 12 |
| 292 0 | 4812 530 58101 | Gasket Tub |
| 301 0 | 4812 452 11085 | Control panel AWM 8121 |
| 303 0 | 4812 498 78095 | Handle |
| 321 0 | 4812 452 11084 | Insert panel |

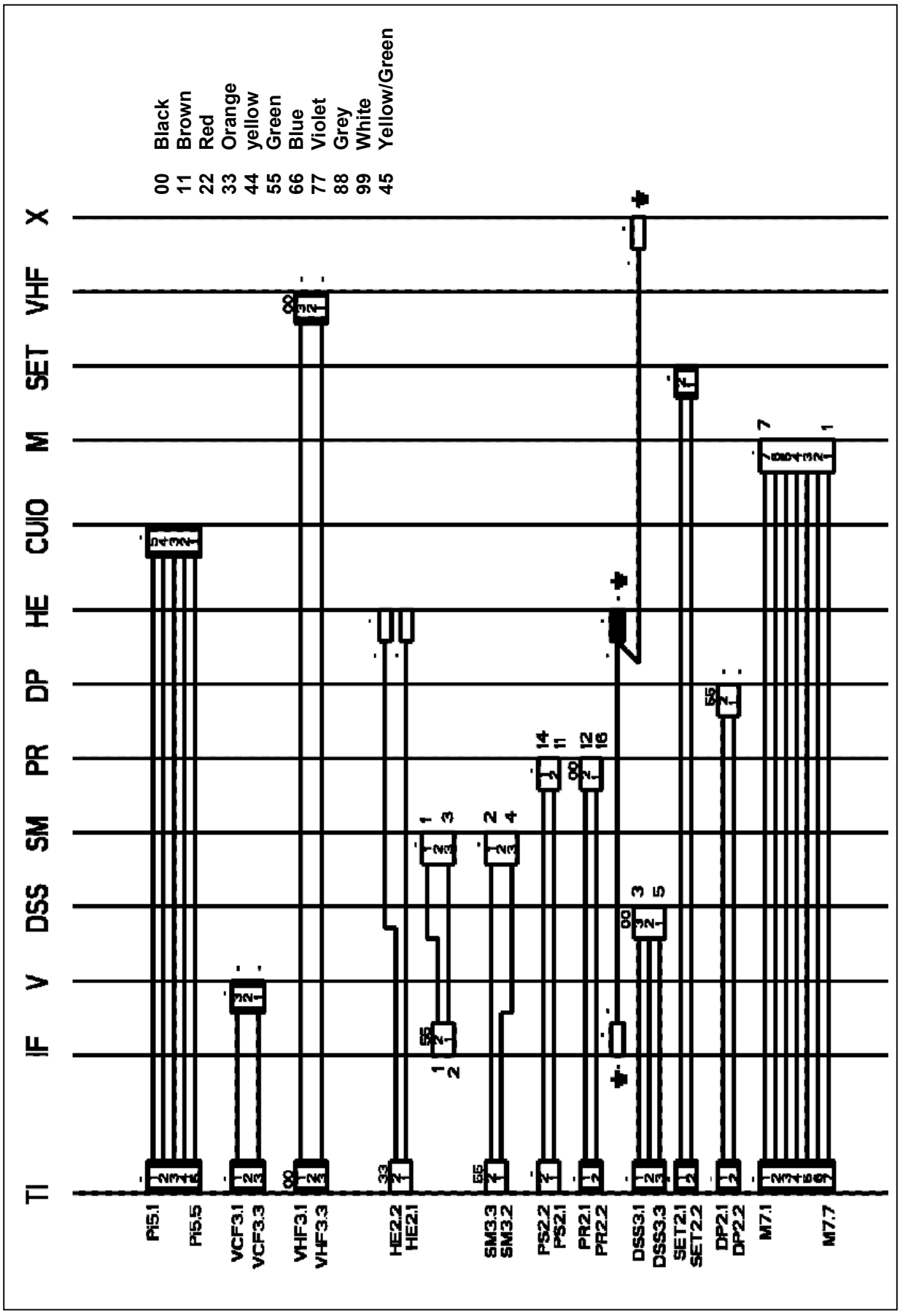
## PARTS LIST (Cont.)

| Item | Part No | Description |
|---|---|---|
| 321 1 | 4812 532 98011 | Fastener, inlay |
| 331 0 | 4812 414 58111 | Knob, timer VBL complete |
| 332 1 | 4812 513 18097 | Push button start VBL WH |
| 332 2 | 4812 513 18098 | Push button spin speed VBL WH |
| 332 3 | 4812 513 18099 | Push button option VBL WH |
| 332 4 | 4812 513 18101 | Push button plus VBL WH |
| 332 5 | 4812 513 18102 | Push button minus VBL WH |
| 400 0 | 4812 361 58172 | Motor 1200 MCA 61 |
| 409 0 | 4812 362 48004 | Brush, carbon motor CESET |
| 421 0 | 4812 121 18142 | Interference filter, 1,00 μF |
| 430 0 | 4812 310 38525 | Pump, drain with thermal protection |
| 451 0 | 4812 259 28766 | Heating element 240V, 53l |
| 480 0 | 4812 321 78109 | Cable, motor SC1 PP |
| 490 0 | 4812 310 18404 | Kit cable, mains 5m 3x1,5 |
| 491 0 | 4812 321 28367 | Strain relief |
| 500 0 | 4812 282 18948 | Timer SC1 (EI,EC,PW,IR,RH) |
| 571 0 | 4812 281 28382 | Valve, magnet cold |
| 573 0 | 4812 271 28449 | Valve, magnet hot |
| 581 0 | 4812 276 18327 | Pressostat 55/35 |
| 620 0 | 4812 239 58003 | Module "A" S/DS |
| 630 0 | 4812 280 58026 | Door lock 3 TABS |
| 691 0 | 4812 282 18702 | Sensor NTC (SC1) |
| 700 0 | 4812 530 28869 | Hose, inlet hot |
| 701 0 | 4812 530 28781 | Hose, inlet 3,8 m (Eltek) |
| 701 0 | 4819 530 28926 | Hose, inlet 2,5 m (Eltek) |
| 701 1 | 4819 466 69704 | Gasket and filter |
| 702 0 | 4819 530 29019 | Hose intern |
| 702 1 | 4819 530 28971 | Hose, inlet intern |
| 707 0 | 4812 526 48031 | Nozzle Distribution |
| 707 1 | 4812 526 48028 | Nozzle |
| 707 2 | 4812 526 48034 | Nozzle hot |
| 707 3 | 4812 526 48035 | Nozzle hot |
| 708 1 | 4812 530 48143 | Bend |
| 711 0 | 4812 418 88054 | Detergent disp. 3C, 53l |
| 712 0 | 4812 418 68198 | Drawer 3 C. VBL |
| 713 0 | 4812 418 88019 | Flap Detergent Container |
| 717 0 | 4812 418 78925 | Bowden cable |
| 717 1 | 4812 321 38013 | Lever, nozzle |
| 717 2 | 4812 321 38012 | Holder, adjustable |
| 717 3 | 4812 278 88018 | Slide |
| 717 4 | 4812 492 38359 | Spring , nozzle |
| 717 5 | 4812 282 18807 | Cam 3 C. SC1/VBL/WH |
| 718 0 | 4812 526 48051 | Siphon |
| 718 1 | 4812 418 88018 | Accessory |
| 753 1 | 4819 418 68234 | Chamber, air |

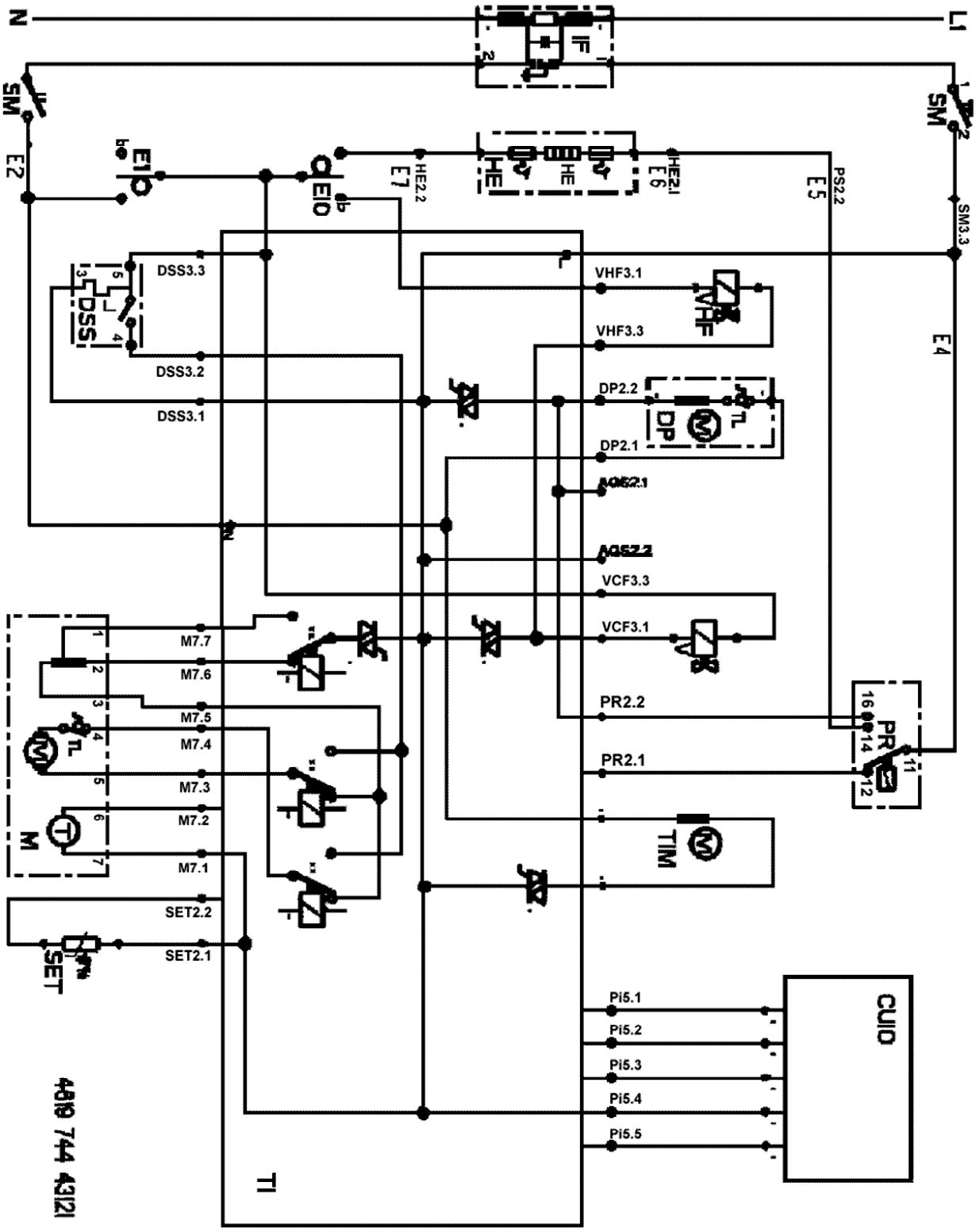
## PARTS LIST (Cont.)

| Item | Part No | Description |
|---|---|---|
| 754 0 | 4812 530 28826 | Drain hose, tub to pump |
| 754 1 | 4812 530 28832 | Lock eco |
| 754 2 | 4812 530 28829 | Flange eco |
| 760 0 | 4812 480 58105 | Filter set pump |
| 781 0 | 4819 530 28847 | Hose, draining |
| 782 0 | 4812 530 28827 | Hose pressostat |
| 787 0 | 4812 530 28813 | Steam hose |
| 787 2 | 4819 401 18868 | Clamp, hose 26,8 mm |
| 794 5 | 4812 530 58095 | Gasket air trap |
| 900 0 | 4812 255 18204 | Holder hose outlet |
| 900 1 | 4812 290 88049 | Bracket |
| 900 2 | 4812 290 88077 | Cable clamp |
| 900 3 | 4812 401 18446 | Cable clamp |
| 900 4 | 4819 401 18872 | Clamp, hose |
| 900 5 | 4819 401 18529 | Clamp, hose |
| 900 6 | 4812 401 18444 | Support Heating element |
| 900 7 | 4812 256 98031 | Holder pressostat |
| 900 8 | 4819 401 18823 | Clamp |
| 900 9 | 4819 404 78449 | Support |
| 901 3 | 4812 401 18549 | Clamp, hose |
| 910 0 | 4812 502 18383 | Screw Torx T40 M 8X 25 |
| 910 5 | 4812 502 18516 | Screw 4,2 x 13 |
| 930 0 | 4819 492 38139 | Spring, suspension |
| 941 0 | 4812 520 28004 | Bearing, ball 6206 |
| 941 1 | 4812 520 28072 | Bearing, ball 6303 |
| 953 0 | 4812 530 58099 | Shaft seal 1200 |
| 961 0 | 4819 532 68829 | Spacer |
| 965 0 | 4812 466 68545 | Cover BK/WH |
| 993 0 | 4819 530 29028 | Bow |
| 993 3 | 4812 395 58004 | Tool |

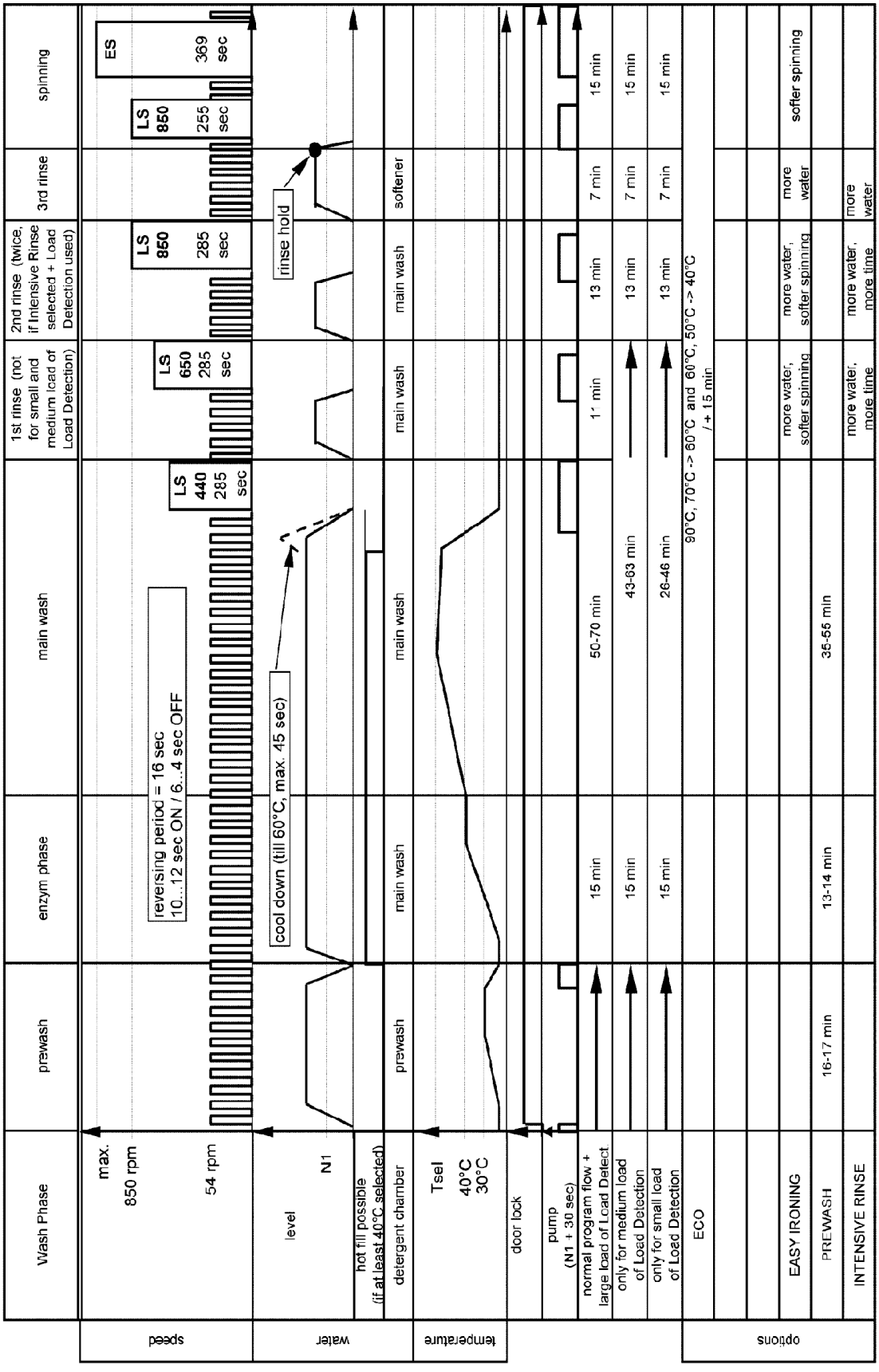
## WIRING DIAGRAM



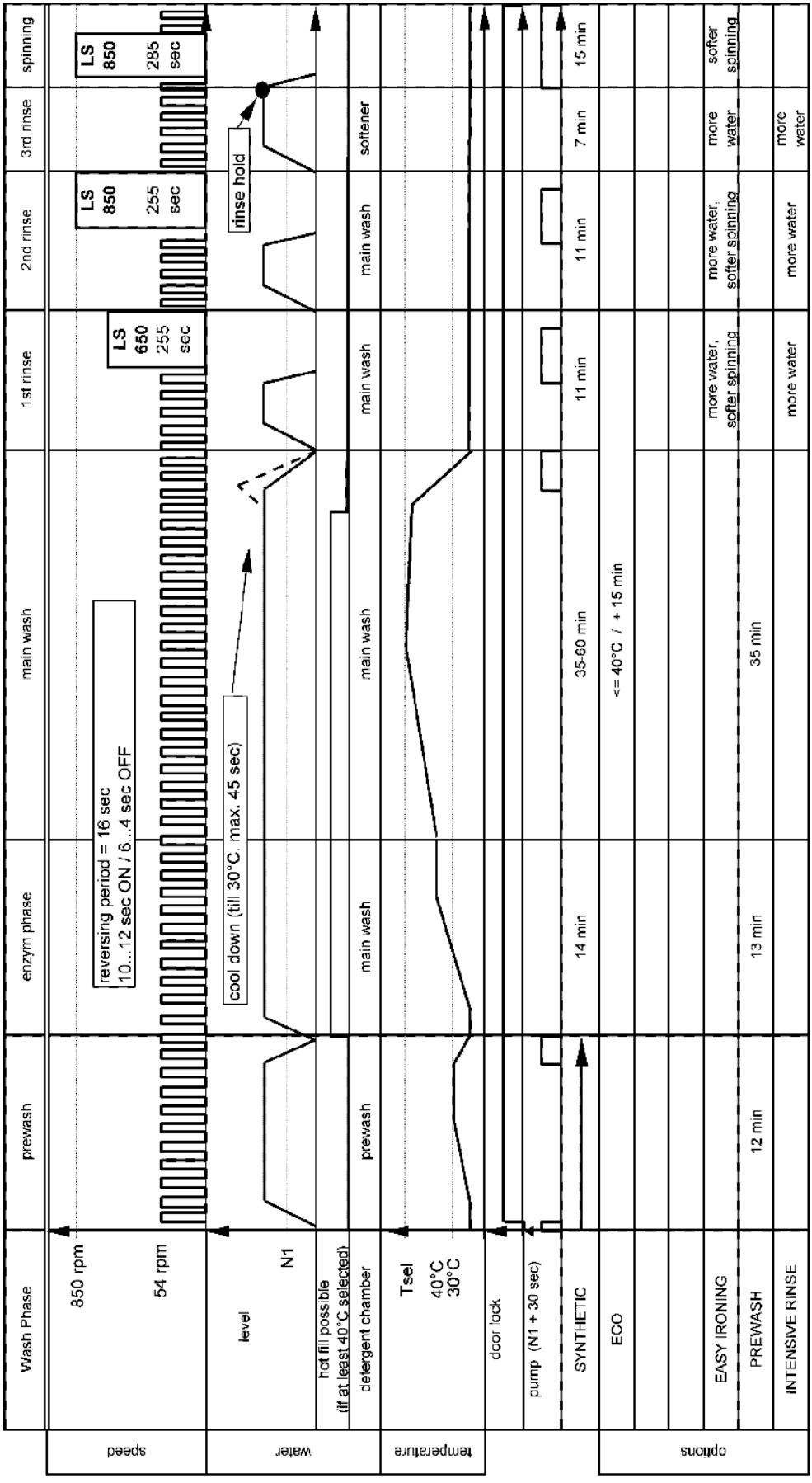
## CIRCUIT DIAGRAM



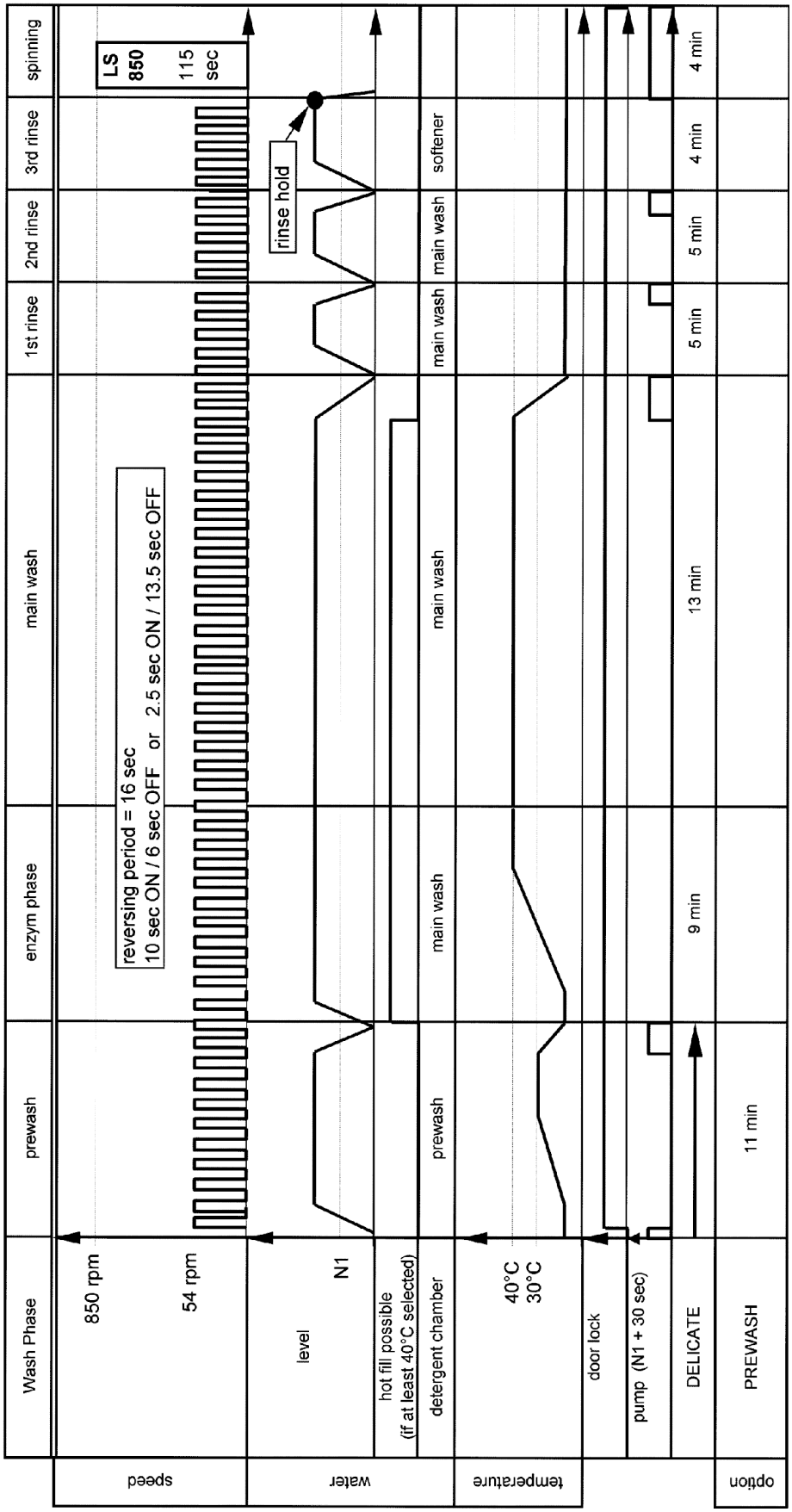
## PROGRAM DIAGRAM - Cotton



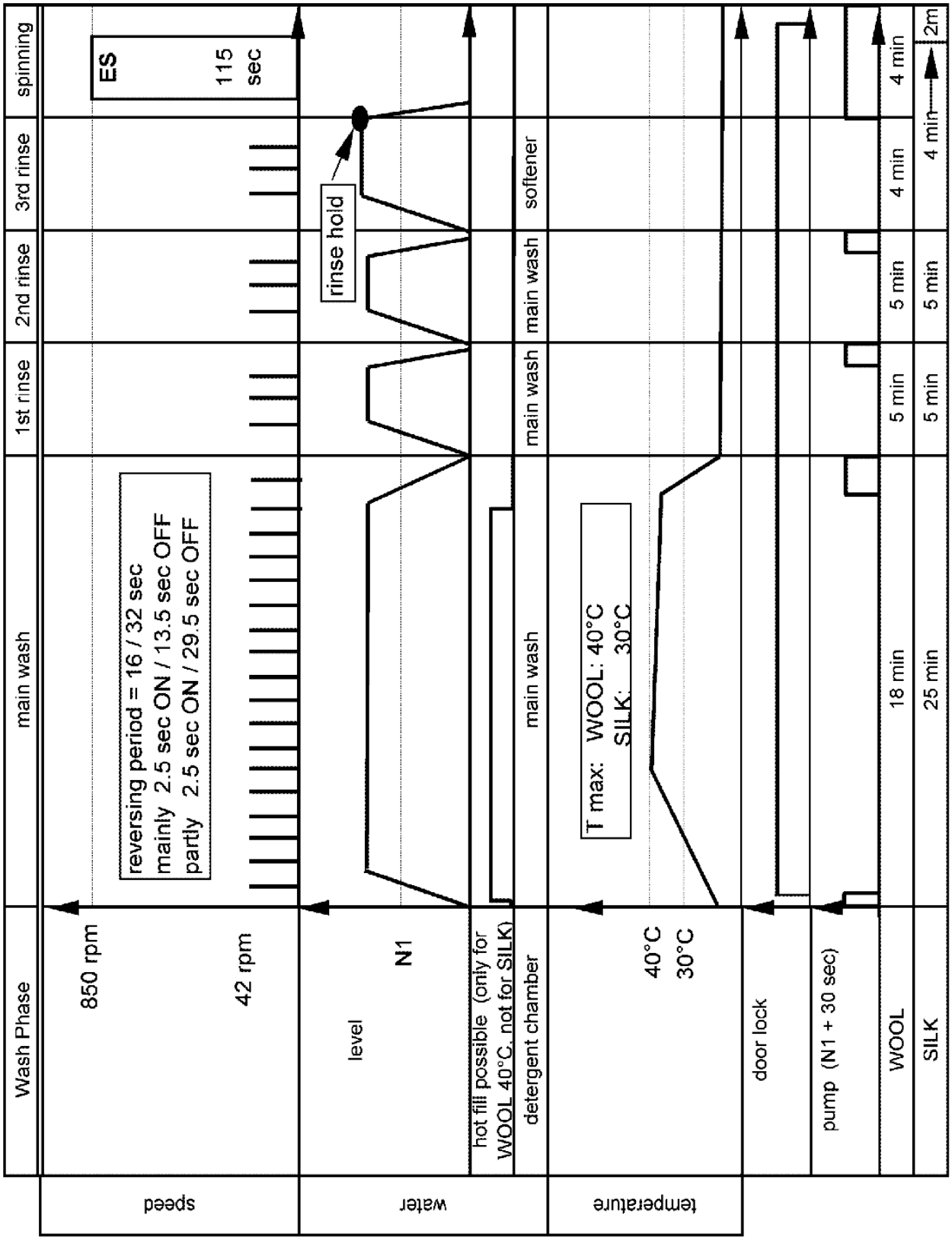
## PROGRAM DIAGRAM - Synthetic



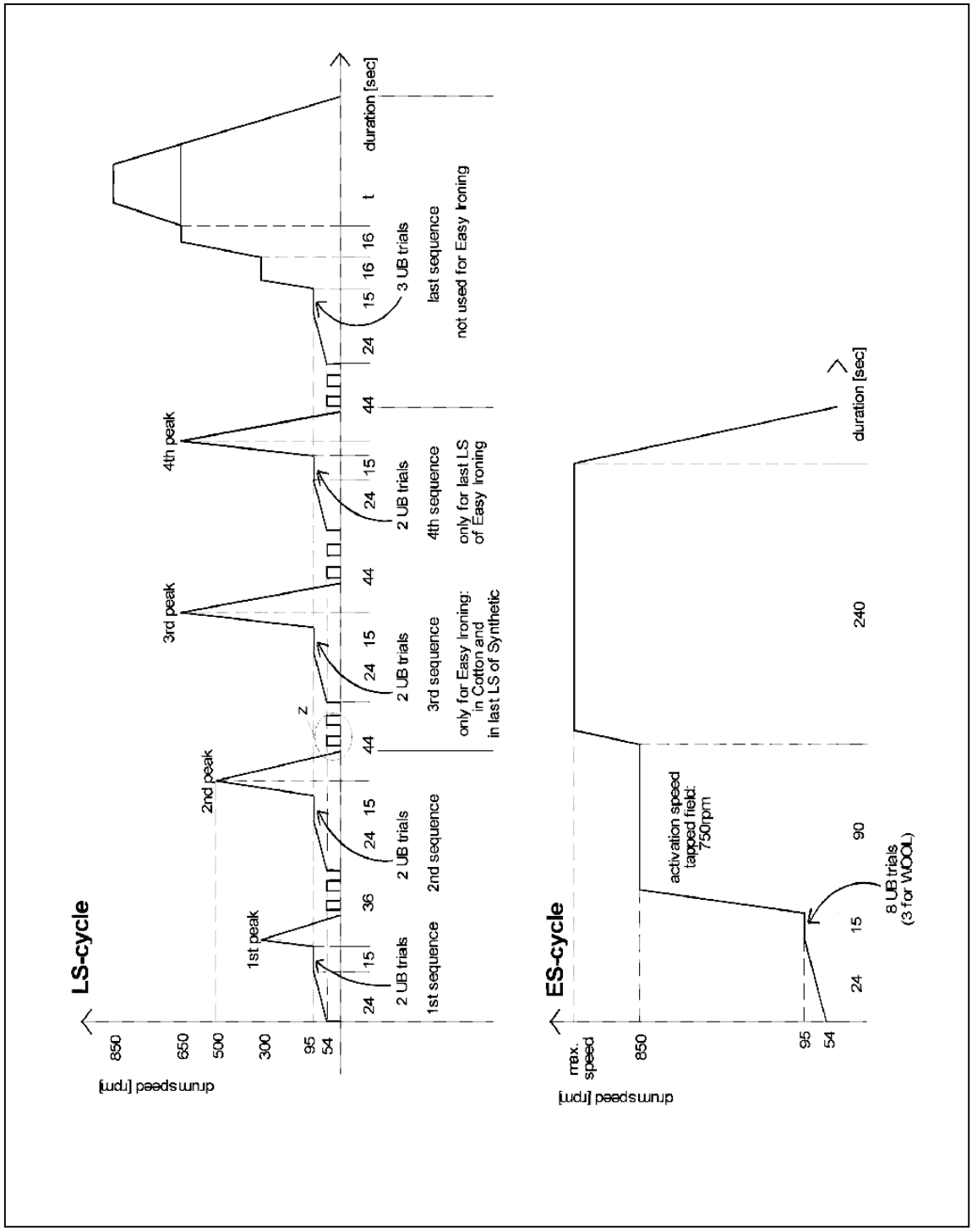
## PROGRAM DIAGRAM - Delicate



## PROGRAM DIAGRAM - Wool and Silk



## PROGRAM DIAGRAM - Spinning Profiles



## FAULT DIAGNOSIS

1. The diagnostic tests must be performed on the machine without a wash load because the out of balance detection system is disabled.

2. Set the cycle selector to "DRAIN"

3. Press the :
   a) "RINSE HOLD" button twice
   b) "INTENSIVE RINSE" button twice
   c) "START" button once,

4. The control panel will now display :
   - Temperature 60°C (Does not change for duration of the test sequence).
   - 1200 speed LED on (Does not change for duration of the test sequence).
   - "PREWASH" programme sequence LED on
   - "WASH" programme sequence LED on
   - "RINSE" programme sequence LED on
   - "RINSE HOLD" programme sequence LED on
   - "DRAIN/SPIN" programme sequence LED on - (This is Step 1 in the Table over)

5. Drain pump runs for approximately six seconds and the test sequence automatically advances to Step 2.

6. By pressing the Prewash button once, the timer advances to step 3

## TEST SEQUENCE

| Step | Advance to step by pressing : (See Note 1) | Pump Out or Fill Via : | Temperature | Time | Drum Rhythm | Component(s) Checked | LED * | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | P | W | R | RH | D |
| 1 | *Start* | Pump out | - | - | Stationary | Rinse hold and Intensive rinse buttons | ● | ● | ● | ● | ● |
| 2 | *Advances automatically* | Prewash | Cold Fill No heat | 60 s (fill) | Stationary | Prewash button and prewash fill | ● | ● | ● | ● | ● |
| 3 | *Prewash button* | Main wash | Warm Fill No Heat | 60 s (fill) | Stationary | Eco button and main wash fill | ○ | ● | ● | ● | ● |
| 4 | *Eco button* | Main wash | Warm Fill Heat to 90°C | 60 s (fill) 25 min heat | 10 s on, 6 s off | Heating circuit, NTC, leakage | ○ | ● | ● | ● | ● |
| 5 | *Auto (or press rinse hold button) (Note 2)* | Main wash | Cold fill No heat | 55 s (fill) | 80 s on, 2 s off | Easy ironing button | ○ | ○ | ● | ● | ● |
| 6 | *Easy ironing button* | Fill via fabric softener | Cold fill No heat | 60 s | 80s on, 2s off | Fabric softener fill | ○ | ○ | ● | ● | ● |
| 7 | *Rinse hold button* | Pump out | - | | 10s on, 6s off | Pump | ○ | ○ | ○ | ● | ● |
| 8 | *Advances automatically (Note 3)* | Pump out | - | 6 min | Spin Max speed | Pump, spin | ○ | ○ | ○ | ○ | ● |

***Programme Sequence LED's:** P = Prewash W = Wash R = Rinse RH = Rinse Hold D = Drain

Note 1 Unless indicated by "Advances automatically", the test cycle can only be advanced by pressing the appropriate button once within five minutes, otherwise the machine will pump out and a false fault will be indicated.

Note 2. This part of the test sequence can be terminated after the fill by pressing the "Rinse hold" button but the NTC will not be checked for accuracy.

Note 3. This part of the test sequence can be terminated at any time by changing the cycle on the cycle selector then reselecting drain and press the start button. Once the machine is empty of water, the start button may be pressed and held until the start button light goes off to reset the timer ready for the next wash.

If a failure is detected during the test sequence the timer will :

1. initiate the safety step routine :

   A. Drain pump runs until pressure switch resets plus 30 seconds.

      I. Main motor is turned off.

      II. Water inlet valves are turned off.

      III. Element is turned off

2. Stop the machine and illuminate the speed indicator LED's in a pattern to indicate the fault code.

## FAILURE DURING NORMAL OPERATION

If a failure is detected during normal operation, the machine will stop, the programme sequence LED where the failure occurred will flash and the speed indicator LED's will illuminate in a pattern to indicate the fault code.

## FAULT CODES

| Failure | 1 | 3 | 5 | 6 | 7 | 9 | 11 | 14 | 16 | 18 | 20 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed LED's | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ○ | ○ | ○ | ○ |
| | ○ | ○ | ● | ● | ● | ○ | ○ | ● | ○ | ○ | ● | ● |
| | ○ | ● | ○ | ● | ● | ○ | ● | ● | ○ | ● | ○ | ○ |
| | ● | ● | ● | ○ | ● | ● | ● | ○ | ○ | ○ | ○ | ● |

| Fault | Detected Malfunction | Perform the following: |
|---|---|---|
| 1 | Water not entering or not detected | Check tap, cold inlet valve, pressure switch |
| 3 | Drain failure or not detecting empty drum | Check pressure switch, blocked drain, drain pump |
| 5 | NTC failure | Check NTC |
| 6 | Tachometer failure (no motor movement detected | Check motor |
| 7 | Circuit board failure (motor triac) | Replace timer |
| 9 | Drain failure | Check drain pump, pressure switch, blocked drain |
| 11 | Electronic failure | Replace timer |
| 14 | Electronic failure | Replace timer |
| 16 | Control failure | Replace timer |
| 18 | Control failure | Replace timer |
| 20 | Control failure | Replace timer |
| 21 | Control failure | Replace timer |

## ADJUSTING DISTRIBUTION NOZZLE

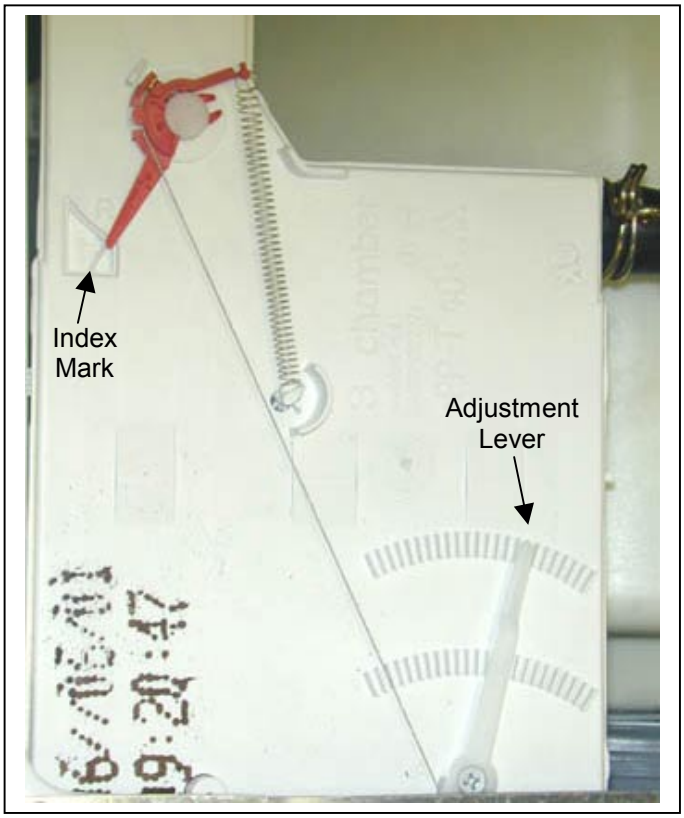
1. Select any COTTON wash cycle with the prewash off and wait until water begins to enter machine.

2. Turn the machine off at the power point.

3. Remove the machine lid.

4. Adjust the lever until the red pointer is over the index mark.

5. Replace the machine lid, turn on the power, open the detergent drawer slightly and make sure that water is only entering the main wash (middle) compartment and that no water is entering the fabric softener compartment.



## TIMER CONNECTIONS